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## TCT@ACC-i2: The Interventional Learning Pathway

## COMPARISON OF ACUTE ELASTIC RECOIL BETWEEN THE SAPIEN-XT AND SAPIEN VALVES IN TRANSFEMORAL-TRANSCATHETER AORTIC VALVE REPLACEMENT

Poster Contributions

Hall C

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**Background:** SAPIEN-XT is a newer generation balloon-expandable valve with a stent-structure created of cobalt chromium, as opposed to the stainless steel stent used in the older generation SAPIEN valve. We sought to determine if there was difference in acute recoil between the two valves

**Methods:** Patients undergoing transfemoral-transcatheter aortic valve replacement (TF-TAVR) using the SAPIEN-XT valve at Cleveland Clinic were included. Recoil was measured using biplane cine-angiographic image analysis of valve deployment. Acute recoil was defined as [(valve diameter at maximal balloon inflation) - (valve diameter after deflation)] / valve diameter at maximal balloon inflation (reported as percentage). Patients undergoing SAPIEN valve implantation were used as the comparison group

**Results:** Among the 23 mm valves, the mean (standard deviation - SD) acute recoil was 2.77 (1.14)% for the SAPIEN valve as compared to 3.75 (1.52)% for the SAPIEN XT valve ( $p = 0.04$ ). Among the 26 mm valves, the mean (SD) acute recoil was 2.85 (1.4)% for the SAPIEN valve as compared to 4.32(1.63)% for the SAPIEN XT valve ( $p = 0.01$ ). Multivariable linear regression demonstrated significantly greater adjusted recoil in the SAPIEN XT valves as compared to the SAPIEN valves by 2.05% (95% CI: 0.99- 3.1%)

**Conclusion:** The SAPIEN XT valves had significantly greater acute recoil after deployment compared to the SAPIEN valves. Implications of this difference in acute recoil on valve performance need to be investigated in future studies.

